

10/532,196

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NEWS 10 JUN 02 The first reclassification of IPC codes now complete in
INPADOC
NEWS 11 JUN 26 TULSA/TULSA2 reloaded and enhanced with new search and
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NEWS 15 JUL 19 Coverage of Research Disclosure reinstated in DWPI
NEWS 16 AUG 09 INSPEC enhanced with 1898-1968 archive
NEWS 17 AUG 28 ADISCTI Reloaded and Enhanced
NEWS 18 AUG 30 CA(SM)/CAPLUS(SM) Austrian patent law changes

NEWS EXPRESS JUNE 30 CURRENT WINDOWS VERSION IS V8.01b, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 26 JUNE 2006.

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=>

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'CAPLUS' ENTERED AT 10:06:59 ON 01 SEP 2006
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FILE COVERS 1907 - 1 Sep 2006 VOL 145 ISS 10
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=> berberine
BERBERINE IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter "HELP COMMANDS" at an arrow prompt (=>).

=> s berberine
3834 BERBERINE
83 BERBERINES
L1 3853 BERBERINE
(BERBERINE OR BERBERINES)

=> file reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	2.87	3.08

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STRUCTURE FILE UPDATES: 30 AUG 2006 HIGHEST RN 905475-39-0
DICTIONARY FILE UPDATES: 30 AUG 2006 HIGHEST RN 905475-39-0

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TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> s l1

L2 258 BERBERINE

=> d 1 hitstr

'HITSTR' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'

The following are valid formats:

Substance information can be displayed by requesting individual fields or predefined formats. The predefined substance formats are: (RN = CAS Registry Number)

REG - RN
SAM - Index Name, MF, and structure - no RN
FIDE - All substance data, except sequence data
IDE - FIDE, but only 50 names
SQIDE - IDE, plus sequence data
SQIDE3 - Same as SQIDE, but 3-letter amino acid codes are used
SQD - Protein sequence data, includes RN
SQD3 - Same as SQD, but 3-letter amino acid codes are used
SQN - Protein sequence name information, includes RN

CALC - Table of calculated properties
EPROP - Table of experimental properties
PROP - EPROP and CALC

Any CA File format may be combined with any substance format to obtain CA references citing the substance. The substance formats must be cited first. The CA File predefined formats are:

ABS -- Abstract
APPS -- Application and Priority Information
BIB -- CA Accession Number, plus Bibliographic Data
CAN -- CA Accession Number
CBIB -- CA Accession Number, plus Bibliographic Data (compressed)
IND -- Index Data
IPC -- International Patent Classification
PATS -- PI, SO
STD -- BIB, IPC, and NCL

IABS -- ABS, indented, with text labels
IBIB -- BIB, indented, with text labels
ISTD -- STD format, indented

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

The ALL format gives FIDE BIB ABS IND RE, plus sequence data when it is available.

The MAX format is the same as ALL.

The IALL format is the same as ALL with BIB ABS and IND indented, with text labels.

For additional information, please consult the following help messages:

HELP DFIELDS -- To see a complete list of individual display fields.
HELP FORMATS -- To see detailed descriptions of the predefined formats.
ENTER DISPLAY FORMAT (IDE):end

=> file caplus
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
6.08	9.16

FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 10:09:53 ON 01 SEP 2006
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FILE COVERS 1907 - 1 Sep 2006 VOL 145 ISS 10
FILE LAST UPDATED: 30 Aug 2006 (20060830/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

=> s l2

L3 4101 L2

=> s l3 and analgesic effects of morphine

42113 ANALGESIC

41945 ANALGESICS

55704 ANALGESIC

(ANALGESIC OR ANALGESICS)

2631845 EFFECTS

40765 MORPHINE

170 MORPHINES

40813 MORPHINE

(MORPHINE OR MORPHINES)

259 ANALGESIC EFFECTS OF MORPHINE

(ANALGESIC(W)EFFECTS(1W)MORPHINE)

L4 1 L3 AND ANALGESIC EFFECTS OF MORPHINE

=> d ibib abs hitstr tot

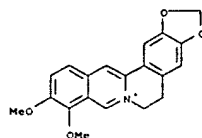
L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:387262 CAPLUS
DOCUMENT NUMBER: 140:368726
TITLE: Medicament component of berberine for the use of prevention and treatment of psychological dependence on and analgesic tolerance to morphine
INVENTOR(S): Jang, Choon-Gon; Lee, Seok-Yong
PATENT ASSIGNEE(S): Sungkyunkwan University, S. Korea
SOURCE: PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004039372	A1	20040513	WO 2003-KR2280	20031027
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MW, MX, MY, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TH, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
PW: GH, GM, KE, LS, MM, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SH, TD, TG				
KR 2004037511	A	20040507	KR 2002-66029	20021029
AU 2003273114	A1	20040525	AU 2003-273114	20031027
CN 1713911	A	20051228	CN 2003-80102287	20031027
JP 200504460	T2	20060223	JP 2005-501662	20031027
US 2006035917	A1	20060216	US 2005-532196	20050421
PRIORITY APPLN. INFO.:				
			KR 2002-66029	A 20021029
			KR 2003-60353	A 20030829
			WO 2003-KR2280	W 20031027

AB Disclosed is a pharmaceutical compn. for preventing and treating addiction to morphine or preventing and inhibiting the development of tolerance to the analgesic effects of morphine, contg. berberine as an effective ingredient, wherein the berberine has an inhibitory effect vs. psychol. dependence on abused drugs such as morphine and the increase of spontaneous locomotor activity upon administration of the drugs. The pharmaceutical compn. and a Coptis japonica plant ext. of the invention, which contain berberine, are highly effective in inhibiting the aforementioned symptoms of morphine addiction, and are thus useful for prevention and treatment of addiction to abused drugs such as morphine. In addn., the pharmaceutical compn. addnl. contg. a pharmaceutically acceptable carrier can be applied to prevent and inhibit morphine tolerance caused by repeated administration of morphine, while not affecting the analgesic effects of morphine upon a single administration.

IT 2096-83-1, Berberine
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)
(berberine for prevention and treatment of psychol. dependence on, and analgesic tolerance to, morphine)
RN 2096-83-1 CAPLUS
CH Benzo[g]-1,3-benzodioxolo[5,6-a]quinolizinium, 5,6-dihydro-9,10-dimethoxy- (9CI) (CA INDEX NAME)



```
=> s berberine morphine
      3834 BERBERINE
      83  BERBERINES
      3853 BERBERINE
          (BERBERINE OR BERBERINES)
      40765 MORPHINE
          170 MORPHINES
      40813 MORPHINE
          (MORPHINE OR MORPHINES)
L5      5  BERBERINE MORPHINE
          (BERBERINE(W)MORPHINE)
```

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=> d ibib abs hitstr tot
```

LS ANSWER 1 OF 5 CAPLUS COPYRIGHT 2006 ACS on STM
 ACCESSION NUMBER: 2004:387262 CAPLUS
 DOCUMENT NUMBER: 140:368726
 TITLE: Medicament component of berberine for the use of prevention and treatment of psychological dependence on and analgesic tolerance to morphine
 INVENTOR(S): Jang, Choon-Gon; Lee, Seok-Yong
 PATENT ASSIGNEE(S): Sungkyunkwan University, S. Korea
 SOURCE: PCT Int. Appl., 19 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004039372	A1	20040513	WO 2003-KR2280	20031027
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MO, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TP, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
KP 2004037511	A	20040507	KP 2002-66029	20021029
AU 2003273114	A1	20040525	AU 2003-273114	20031027
CN 1713911	A	20051218	CN 2003-80102287	20031027
JF 2006504460	T2	20060223	JP 2005-501862	20031027
US 2006015917	A1	20040216	US 2005-532196	20050421
PRIORITY APPLN. INFO.: KP 2002-46029 A 20021029				
KH 2003-60351 A 20030829				
WO 2003-KR2280 W 20031027				

AB Disclosed is a pharmaceutical compn. for preventing and treating addiction to morphine or preventing and inhibiting the development of tolerance to the analgesic effects of morphine, contg. berberine as an effective ingredient, wherein the berberine has an inhibitory effect vs. psychol. dependence on abused drugs such as morphine and the increase of spontaneous locomotor activity upon administration of the drugs. The pharmaceutical compn. and a *Coptis japonica* plant, ext. of the invention, which contain berberine, are highly effective in inhibiting the aforementioned symptoms of morphine addiction, and are thus useful for prevention and treatment of addiction to abused drugs such as morphine. In addn., the pharmaceutical compn. addnl. contg. a pharmaceutically acceptable carrier can be applied to prevent and inhibit morphine tolerance caused by repeated administration of morphine, while not affecting the analgesic effects of morphine upon a single administration.

LS ANSWER 2 OF 5 CAPLUS COPYRIGHT 2006 ACS on STM
 ACCESSION NUMBER: 2002:3631 CAPLUS
 DOCUMENT NUMBER: 137:134858
 TITLE: Reinforcement by morphine the selective drinking motivation in rats
 AUTHOR(S): Tan, Beiping; Chen, Jing; Yang, Xiaoyan; Sun, Nan
 CORPORATE SOURCE: Institute of Psychology, Chinese Academy of Sciences, Beijing, 100101, Peop. Rep. China
 SOURCE: Zhongguo Yaowu Yixinxing Zazhi (2001), 10(4), 254-257
 CODEN: ZYYZFX; ISSN: 1007-9718
 PUBLISHER: Zhongguo Yaowu Yixinxing Yanjiusuo
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

AB The effects of morphine on selective drinking behavior of rats were studied. The rats continuously or intermittently drank the berberine soln. (BH) or the berberine-morphine soln. (BH-MH). The ratio of selection of BH-MH to BH was used as the index in the test. The rats were tested once every three days for 2 wk. After 20 days, the morphine-sucrose soln. was given before the test to observe the intervention. The BH-MH/BH ratio increased significantly 12 h after BH-MH soln. taken. Exposure of morphine before test could decrease the BH-MH/BH ratio dose-dependently. Morphine could reinforce significantly the morphine drinking motivation, which was related to drug-taking schedule.

LS ANSWER 3 OF 5 CAPLUS COPYRIGHT 2006 ACS on STM
 ACCESSION NUMBER: 1999:417714 CAPLUS
 DOCUMENT NUMBER: 131:84831
 TITLE: Cloning of cDNA for (S)-3'-hydroxy-N-methylcoclaurine-4'-O-methyl transferase from *Coptis japonica* and use for producing therapeutical alkaloids
 INVENTOR(S): Sato, Fumihiko; Yamada, Yasuyuki
 PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11178579	A2	19990706	JP 1997-355320	19971224
PRIORITY APPLN. INFO.: JP 1997-355320 19971224				

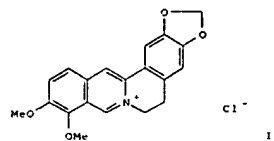
AB The cDNA encoding norcoclaurine (S)-3'-hydroxy-N-methylcoclaurine-4'-O-Me transferase, which catalyzes the transfer of the S-Me group of S-adenosyl-L-methionine to the 4'-hydroxyl group of (S)-3'-hydroxy-N-methylcoclaurine to produce reticuline, is isolated from *Coptis japonica* Makino var. *Dissecta* (Yatabe) Nakai. The cDNA can be used for producing secondary metabolites including berberine-, morphine-, and papaverine-type alkaloids from reticuline in transgenic plant (e.g. *Coptis* or *Papaver*), plant tissues, or plant cells.

LS ANSWER 4 OF 5 CAPLUS COPYRIGHT 2006 ACS on STM
 ACCESSION NUMBER: 1999:417712 CAPLUS
 DOCUMENT NUMBER: 131:84830
 TITLE: Cloning of cDNA for norcoclaurine 6-O-methyl transferase from *Coptis japonica* and use for producing therapeutical alkaloids
 INVENTOR(S): Sato, Fumihiko; Yamada, Yasuyuki
 PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11178577	A2	19990706	JP 1997-355045	19971224
PRIORITY APPLN. INFO.: JP 1997-355045 19971224				

AB The cDNA encoding norcoclaurine 6-O-Me transferase, which catalyzes the transfer of the S-Me group of S-adenosyl-L-methionine to the 6-hydroxyl group of norcoclaurine to produce coclaurine, is isolated from *Coptis japonica* Makino var. *Dissecta* (Yatabe) Nakai. The cDNA can be used for producing secondary metabolites including berberine-, morphine-, and papaverine-type alkaloids from coclaurine or reticuline in transgenic plant (e.g. *Coptis* or *Papaver*), plant tissues, or plant cells.

LS ANSWER 5 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1984:96484 CAPLUS
 DOCUMENT NUMBER: 100:96484
 TITLE: Antisecretory effects of berberine with morphine, clonidine, L-phenylephrine, yohimbine or neostigmine in pig jejunum
 AUTHOR(S): Zhu, Beilei; Ahrens, Franklin
 CORPORATE SOURCE: Coll. Vet. Med., Iowa State Univ., Ames, IA, 50011, USA
 SOURCE: European Journal of Pharmacology (1983), 96(1-2), 11-19
 CODEN: EJPHAZ; ISSN: 0014-2999
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB The effects of berberine (1) [2086-83-1] alone or in combination with morphine [57-27-2], clonidine [4205-90-7], L-phenylephrine [614-03-9] or yohimbine [146-48-5] were compared in *Escherichia coli* heat-stable enterotoxin (ST)-exposed ligated jejunal loops in 2 wk old pigs. In addn., net water and electrolyte fluxes in normal jejunal loops were measured in the presence of neostigmine methylsulfate [51-60-5], morphine, clonidine, L-phenylephrine or yohimbine alone or in combination with berberine. Berberine, morphine, clonidine, and L-phenylephrine each reduced the net secretion of water and electrolytes induced by ST. A significant enhancement of antisecretory effect was obsd. only with the combination of berberine and L-phenylephrine. Yohimbine or neostigmine augmented the net loss of water and electrolytes produced by ST. Yohimbine did not block the antisecretory action of berberine. In normal jejunum, there was no significant difference in water and ion absorption between adrenergic or opiate agonists alone and their combination with berberine. Neostigmine reversed absorption to net secretion in normal jejunum and this effect was significantly reduced by berberine. The antisecretory action of berberine appears similar to that of .alpha.2-adrenergic agonists, opiates, and anticholinergic agents.


```
=> s morphine
      40765 MORPHINE
      170 MORPHINES
L6      40813 MORPHINE
          (MORPHINE OR MORPHINES)

=> s berberine
      3834 BERBERINE
      83 BERBERINES
L7      3853 BERBERINE
          (BERBERINE OR BERBERINES)

=> s l6 and l7
L8      147 L6 AND L7

=> s l8 and treat
      67561 TREAT
      8030 TREATS
      75188 TREAT
          (TREAT OR TREATS)
L9      1 L8 AND TREAT

=> s l8 and analgesic
      42113 ANALGESIC
      41945 ANALGESICS
      55704 ANALGESIC
          (ANALGESIC OR ANALGESICS)
L10     9 L8 AND ANALGESIC

=> d ibib abs tot
```

L10 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2006 ACS on STM

ACCESSION NUMBER: 2006:666025 CAPLUS
DOCUMENT NUMBER: 145:152690
TITLE: Method for inducing crystalline state transition in pharmaceuticals
INVENTOR(S): Hakamichi, Kouichi; Izumi, Shougo; Oka, Masaaki
PATENT ASSIGNEE(S): Nippon Shinyaku Company, Ltd., Japan
SOURCE: U.S., 16 pp., Cont.-in-part of U. S. 5,456,923.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PRIORITY INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5811547	A	19980922	US 1995-416815	19950609
CA 2147279	AA	19940429	CA 1993-2147279	19931013
WO 9408541	A1	19940429	WO 1993-JP1469	19931013
W: AU, BR, CA, FI, HU, JP, KR, NO, NZ, RU, US				
FW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9351407	A1	19940509	AU 1993-51607	19931013
EP 645009	A1	19950502	EP 1993-922625	19931013
EP 645009	B1	20000216		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AT 199770	E	20000315	AT 1993-922625	19931013
ES 2145063	T3	20000701	ES 1993-922625	19931013
US 5456923	A	19951010	US 1993-129133	19931115
PRIORITY APPLN. INFO.:			JP 1992-303085	A 19921014
			WO 1993-JP1469	W 19931013
			US 1993-129133	A2 19931115
			JP 1991-112554	A 19910416
			WO 1992-JP470	W 19920414

AB This invention has for its object to provide a method of inducing a transition in cryst. state of a crystallizable pharmaceutical with great ease and improved efficiency and uniformity on a high prodn. scale. An extruder is used for inducing a transition from one cryst. state (DELTA) to another cryst. state in a crystallizable pharmaceutical. An extruded indomethacin (form .alpha.) was converted to an amorphous form.
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L10 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2006 ACS on STM

ACCESSION NUMBER: 2004:508390 CAPLUS
DOCUMENT NUMBER: 142:52251
TITLE: The roles of latex and the vascular bundle in morphine biosynthesis in the opium poppy.
INVENTOR(S): Weid, Marion; Ziegler, Joerg; Kutschen, Toni M.
CORPORATE SOURCE: Leibniz-Institut fuer Pflanzenbiochemie, Halle/Saale, 06120, Germany
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (2004), 101(38), 13957-13962
CODEN: PHASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The opium poppy, *Papaver somniferum*, is one of mankind's oldest medicinal plants. Opium poppy today is the com. source of the narcotic analgesics morphine and codeine. Along with these two morphinans, opium poppy produces approx. eighty alkaloids belonging to various tetrahydrobenzylisoquinoline-derived classes. It has been known for over a century that morphinan alkaloids accumulate in the latex of opium poppy. With identification of many of the enzymes of alkaloid biosynthesis in this plant, biochem. data suggested involvement of multiple cell types in alkaloid biosynthesis in poppy. Herein the immunolocalization of five enzymes of alkaloid formation in opium poppy is reported: (R,S)-3'-hydroxy-N-methylcoclaurine 4'-O-methyltransferase central to the biosynthesis of tetrahydroisoquinoline-derived alkaloids, the berberine bridge enzyme of the sanguinarine pathway, (R,S)-reticuline 7-O-methyltransferase specific to laudanosine formation, and salutaridinol 7-O-acetyltransferase and codeinone reductase, which lead to morphine. In capsule and stem, both O-methyltransferases and the O-acetyltransferase are found predominantly in parenchyma cells within the vascular bundle, and codeinone reductase is localized to laticifers, the site of morphinan alkaloid accumulation. In developing root tip, both O-methyltransferases and the O-acetyltransferase are found in the pericycle of the stele, and the berberine bridge enzyme is localized to parenchyma cells of the root cortex. Laticifers are not found in developing root tip, and, likewise, codeinone reductase was not detected. These results provide cell-specific localization that gives a coherent picture of the spatial distribution of alkaloid biosynthesis in opium poppy.
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L10 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2006 ACS on STM

ACCESSION NUMBER: 2005:469186 CAPLUS
DOCUMENT NUMBER: 143:147389
TITLE: Sanguinarine biosynthesis is associated with the endoplasmic reticulum in cultured opium poppy cells after elicitor treatment
AUTHOR(S): Alcantara, Joanel; Bird, David A.; Franceschi, Vincent
CORPORATE SOURCE: R.; Facchini, Peter J.
SOURCE: Department of Biological Sciences, University of Calgary, Alberta, T2N 1N4, Can.
PUBLISHER: Plant Physiology (2005), 138(1), 173-183
CODEN: PLPHAY; ISSN: 0032-0859
DOCUMENT TYPE: American Society of Plant Biologists
LANGUAGE: Journal
English

AB Three key benzylisoquinoline alkaloid biosynthetic enzymes, (S)-N-methylcoclaurine-3'-hydroxylase (CYP80B1), berberine bridge enzyme (BBE), and codeinone reductase (COR), were localized in cultured opium poppy (*Papaver somniferum*) cells by sucrose d. gradient fractionation and immunogold labeling. CYP80B1 catalyzes the second to last step in the formation of (S)-reticuline, the last common intermediate in sanguinarine and morphine biosynthesis. BBE converts (S)-reticuline to (S)-scoulerine as the first committed step in sanguinarine biosynthesis, and COR catalyzes the penultimate step in the branch pathway leading to morphine. Sanguinarine is an antimicrobial alkaloid that accumulates in the vacuoles of cultured opium poppy cells in response to elicitor treatment, whereas the narcotic analgesic morphine, which is abundant in opium poppy plants, is not produced in cultured cells. CYP80B1 and BBE were rapidly induced to high levels in response to elicitor treatment. By contrast, COR levels were constitutive in the cell cultures, but remained low and were not induced by addn. of the elicitor. Western blots performed on protein homogenates from elicitor-treated cells fractionated on a sucrose d. gradient showed the cosedimentation of CYP80B1, BBE, and sanguinarine with calreticulin, and COR with glutathione S-transferase. Calreticulin and glutathione S-transferase are markers for the endoplasmic reticulum (ER) and the cytosol, resp. In response to elicitor treatment, large dilated vesicles rapidly developed from the lamellar ER of control cells and fused with the central vacuole. Immunogold localization supported the assocn. of CYP80B1 and BBE with ER vesicles, and COR with the cytosol in elicitor-treated cells. Our results show that benzylisoquinoline biosynthesis and transport to the vacuole are assoc. with the ER, which undergoes major ultrastructural modification in response to the elicitor treatment of cultured opium poppy cells.
REFERENCE COUNT: 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L10 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2006 ACS on STM

ACCESSION NUMBER: 2004:387262 CAPLUS
DOCUMENT NUMBER: 140:368726
TITLE: Medicament component of berberine for the use of prevention and treatment of psychological dependence on and analgesic tolerance to morphine
INVENTOR(S): Jang, Choon-Gon; Lee, Seok-Yong
PATENT ASSIGNEE(S): Sungkyunkwan University, S. Korea
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXX2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PRIORITY INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004039372	A1	20040513	WO 2003-KR2280	20031027
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BE, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
FW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TH, BF, BJ, CF, CG, CI, CM, CA, GN, GQ, GW, ML, MR, NE, SH, TD, TG				
KR 2004037911	A	20040507	KR 2002-66029	20021029
AU 2003273114	A1	20040525	AU 2003-273114	20031027
CN 1713911	A	20051228	CN 2003-80102287	20031027
JP 20060506460	T2	20060223	JP 2005-501862	20031027
US 2006035917	A1	20060216	US 2005-532196	20050421
PRIORITY APPLN. INFO.:			KR 2002-66029	A 20021029
			KR 2003-60353	A 20030829
			WO 2003-KR2280	W 20031027

AB Disclosed is a pharmaceutical compn. for preventing and treating addiction to morphine or preventing and inhibiting the development of tolerance to the analgesic effects of morphine, contg. berberine as an effective ingredient, wherein the berberine has an inhibitory effect vs. psychol. dependence on abused drugs such as morphine and the increase of spontaneous locomotor activity upon administration of the drugs. The pharmaceutical compn. and a *Coptis japonica* plant ext. of the invention, which contain berberine, are highly effective in inhibiting the aforementioned symptoms of morphine addiction, and are thus useful for prevention and treatment of addiction to abused drugs such as morphine. In addn., the pharmaceutical compn. addnl. contg. a pharmaceutically acceptable carrier can be applied to prevent and inhibit morphine tolerance caused by repeated administration of morphine, while not affecting the analgesic effects of morphine upon a single administration.

L10 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:220186 CAPLUS
DOCUMENT NUMBER: 140:276172
TITLE: Taste masked dosage forms comprising acrylic polymers and processes for their preparation
INVENTOR(S): Murpani, Deepak; Arora, Vinod Kumar; Malik, Rajiv
PATENT ASSIGNEE(S): Ranbaxy Laboratories Limited, India
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXX02
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004022037	A1	20040319	WO 2003-1B3779	20030904
N: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FF, GB, GF, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MP, NE, SN, TD, TG				
IN 194610	A	20041120	IN 2002-DE903	20020904
"A 249717"	AA	20040318	CA 2003-2497176	20030904
AU 2003254417	A1	20040319	AU 2003-254417	20030904
EP 1536711	A1	20050508	EP 2003-793976	20030904
P: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003014036	A	20050712	BR 2003-14036	20030904
CN 1689292	A	20051026	CN 2003-824574	20030904
JP 2006502156	T2	20060119	JP 2004-533743	20030904
US 2006039981	A1	20060223	US 2005-526844	20050727
PRIORITY APPL. INFO.:			IN 2002-DE903	A 20020904
			WO 2003-1B3779	W 20030904

AB The invention relates to taste masked dosage forms utilizing low amts. of taste masking polymer, and simple and economical processes for the prepn. of the taste masked dosage forms. The taste-masked dosage form includes one or more drugs and one or more cationic polymers synthesized from dimethylaminoethyl methacrylate and neutral methacrylic acid esters. The wt/wt ratio of the drug to polymer is less than about one to two. Hard gelatin capsules contained coprimates 15, Eudragit EPO 26, Ex cellulose (low viscosity) 3.7, titanium dioxide 1.0, nonpareil seeds 45.3, talc 5.9, iso-Pr alc./water (3:1) q.s. 100%.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L10 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:190115 CAPLUS
DOCUMENT NUMBER: 132:319673
TITLE: Distribution of morphinan and benzo[c]phenanthridine alkaloid gene transcript accumulation in Papaver somniferum
AUTHOR(S): Huang, Fong-Chun; Kutchan, Toni M.
CORPORATE SOURCE: Leibniz-Institut für Pflanzenbiochemie, Halle/Saale, 06120, Germany
SOURCE: Phytochemistry (2000), 53(5), 555-564
CODEN: PHYTAS; ISSN: 0031-9422
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The opium poppy *Papaver somniferum* L. produces the antimicrobial benzo[c]phenanthridine alkaloid sanguinarine and the narcotic analgesic morphinan alkaloid morphine. Transcripts of three genes of alkaloid biosynthesis in *P. somniferum* in developing seedlings, mature plants and plant cell suspension culture were monitored for temporal/spatial or for Me jasmonate-induced accumulation by RNA gel blot anal. These genes encoded (S)-N-methylcocclaurine 3'-hydroxylase (CYP80B1) that is common to morphine and sanguinarine biosynthesis, the berberine bridge enzyme (BBE) that lies on the pathway to sanguinarine, and codeinone reductase (COR) the penultimate enzyme of morphine biosynthesis. In developing *P. somniferum* seedlings, the morphine precursor thebaine was present throughout the first twenty days of germination. In contrast, sanguinarine was present in detectable quantities only after day five after germination and continued to increase at least until day twenty. Accumulation of cyp80b1, bbe1 and cor1 gene transcripts paralleled these differences. In the mature poppy plant, cyp80b1, bbe1 and cor1 gene transcripts were detected in the root, the stem, the leaf lamina and the leaf mid rib. Only cyp80b1 and cor1, however, were found in the flower bud and the capsule. Consistent with the fact that sanguinarine accumulation, but not that of morphine, can be induced in opium poppy cell suspension culture by addn. of Me jasmonate to the culture medium, cyp80b1 and bbe1, but not cor1 transcript accumulated in response to elicitor treatment.

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L10 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:927879 CAPLUS
DOCUMENT NUMBER: 140:214072
TITLE: A tale of three cell types: alkaloid biosynthesis is localized to sieve elements in opium poppy
AUTHOR(S): Bird, David A.; Franceschi, Vincent R.; Facchini, Peter J.
CORPORATE SOURCE: Department of Biological Sciences, University of Calgary, Calgary, AB, T2N 1N4, Can.
SOURCE: Plant Cell (2003), 15(11), 2626-2635
CODEN: PLCEEM; ISSN: 1040-4651
PUBLISHER: American Society of Plant Biologists
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Opium poppy produces a diverse array of pharmaceutical alkaloids, including the narcotic analgesics morphine and codeine. The benzylisoquinoline alkaloids of opium poppy accumulate in the cytoplasm, or latex, of specialized laticifers that accompany vascular tissues throughout the plant. However, immunofluorescence labeling using affinity-purified antibodies showed that three key enzymes, (S)-N-methylcocclaurine 3'-hydroxylase (CYP80B1), berberine bridge enzyme (BBE), and codeinone reductase (COR), involved in the biosynthesis of morphine and the related antimicrobial alkaloid sanguinarine, are restricted to the parietal region of sieve elements adjacent or proximal to laticifers. The localization of laticifers was demonstrated using antibodies specific to the major latex protein (MLP), which is characteristic of the cell type. In-situ hybridization showed that CYP80B1, BBE, and COR gene transcripts were found in the companion cell paired with each sieve element, whereas MLP transcripts were restricted to laticifers. The biosynthesis and accumulation of alkaloids in opium poppy involve cell types not implicated previously in plant secondary metab., and alkaloid formation dramatically extends the function of sieve elements beyond the transport of solutes and information macromols. in plants.

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L10 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1971:97717 CAPLUS
DOCUMENT NUMBER: 74:97717
TITLE: Pharmacological actions of berberine on central nervous system
AUTHOR(S): Shanbhag, S. M.; Kulkarni, H. J.; Gaitonde, Bhikaji B.
CORPORATE SOURCE: Dep. Pharmacol., Grant Med. Coll., Bombay, India
SOURCE: Japanese Journal of Pharmacology (1970), 20(4), 492-7
CODEN: JJPAAZ; ISSN: 0021-5159
DOCUMENT TYPE: Journal
LANGUAGE: English
G1 For diagram(s), see printed CA issue.
AB Berberine (II) produced sedation when given, i.p. to cats and mice, or intravenicularly to cats, and potentiated the pentobarbitone sleeping time. I had no tranquilizing anticonvulsant, or analgesic action. It did not affect morphine analgesia or barbiturate hyperalgesia.

LI0 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1963:434911 CAPLUS

DOCUMENT NUMBER: 59:34911

ORIGINAL REFERENCE NO.: 59:6199g

TITLE: Rapid separation of drugs and poisons by
high-temperature reversed-phase paper chromatography.
III. Alkaloids

AUTHOR(S): Street, Harold V.

CORPORATE SOURCE: Univ. Edinburgh, UK

SOURCE: Acta Pharmacologica et Toxicologica (1962), 19, 325-9

CODEN: APTOA6; ISSN: 0001-6683

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The high-temp. (85 and 95.degree.) reversed-phase paper chromatography

technique was applied to 31 alkaloids whose Rf values were studied at 6

pH values from 1 to 10.6. Analgesic compds. with a close chem.
structural relation, dextromoramide, dipipanone, and methadone were sepd.
in 17 min. with a solvent pH of 4.52 at 95.degree..

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